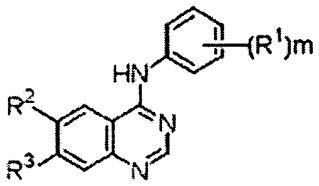
CLAIMS

1. A quinazoline derivative represented by general formula (I) below, or a salt thereof, or a hydrate or solvate thereof:

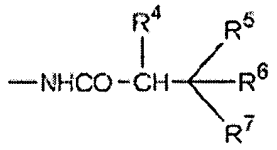
[Chem. 1]



(I)

[in the formula, m denotes an integer from 0 to 3, R^1 denotes a hydrogen atom, halogen atom, hydroxy group, cyano group, nitro group, trifluoromethyl group, C_1 to C_5 alkyl group, C_1 to C_5 alkoxy group, $-S(O)_fR^{12}$ (in the formula, f denotes an integer from 0 to 2, R^{12} denotes a C_1 to C_5 alkyl group), $-NR^{13}R^{14}$ (in the formula, R^{13} and R^{14} each individually denotes a hydrogen atom, C_1 to C_5 alkyl group, C_1 to C_5 alkanoyl group, or C_1 to C_5 alkylsulfonyl group), C_2 to C_5 alkenyl group, or C_2 to C_5 alkynyl group, and either one of R^2 and R^3 denotes general formula (II) below

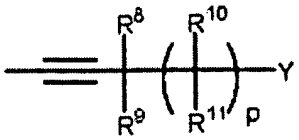
[Chem. 2]



(II)

(in the formula, R^4, R^5 and R^6 each individually denotes a hydrogen atom, C_1 to C_5 alkyl group that may have substituents, C_7 to C_{12} aralkyl group that may have substituents, or C_6 to C_{10} aryl group that may have substituents, R^7 denotes $-SO_2R^{15}$, $-SOR^{15}$, or $-OR^{15}$ (in the formula, R^{15} denotes a C_1 to C_5 alkyl group that may have substituents, C_7 to C_{12} aralkyl group that may have substituents, or C_6 to C_{10} aryl group that may have substituents) and the remaining one of R^2 and R^3 denotes an iodine atom or general formula (III) below:

[Chem. 3]

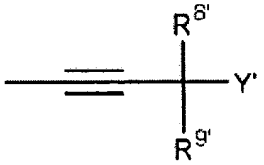


(III)

(in the formula, R^8 and R^9 each individually denotes a hydrogen atom, or a C_1 to C_5 alkyl group that may be substituted with a hydroxyl group or C_1 to C_5 alkoxy group, p denotes an integer from 0 to 3, R^{10} and R^{11} each individually denotes a hydrogen atom or C_1 to C_5 alkyl group, Y denotes a hydrogen atom, hydroxyl group, C_1 to C_5 alkoxy group, C_1 to C_5 alkanoyloxy group, piperazin-1-yl that has a C_1 to C_5 alkyl group that may be substituted at the 4-position, or an amino that is di-substituted with C_1 to C_5 alkyls that may be substituted), and herein, when m denotes 2 or 3, R^1 may be the same or different.]

2. The quinazoline derivative, salt thereof, or hydrate or solvate thereof according to Claim 1, wherein m is 2, R^1 is a halogen atom, R^2 is $-NHCO-CH_2-CH_2-R^7$ (in the formula, R^7 denotes a methylsulfonyl group, benzenesulfonyl group, phenyloxy group, phenylthio group, or methylthio group), and R^3 is an iodine atom or general formula (IV) below:

[Chem. IV]



(IV)

(in the formula, $R^{8'}$ and $R^{9'}$ each individually denotes a hydrogen atom, methyl group, ethyl group, propyl group, or isopropyl group, and Y' denotes a morpholino group or 4-methylpiperazin-1-yl).

3. The quinazoline derivative, salt thereof, or hydrate or solvate thereof according to either Claim 1 or 2, selected from a group consisting of the following compounds:

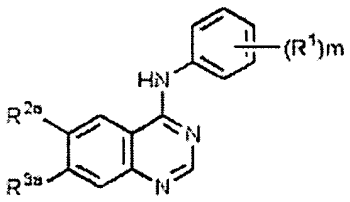
N-{4-[(3-chloro-4-fluorophenyl)amino]-7-iodo-6-quinazolinyl}-3-(phenylsulfonyl)propanamide, N-

{4-[(3-chloro-4-fluorophenyl)amino]-7-iodo-6-quinazolinyl}-3-(phenyloxy)propanamide, N-{4-[(3-chloro-4-fluorophenyl)amino]-7-[3-methyl-3-(4-methyl-1-piperazinyl)-1-butynyl]-6-quinazolinyl}-3-(phenylsulfonyl)propanamide, N-{4-[(3-chloro-4-fluorophenyl)amino]-7-[3-methyl-3-(4-methyl-1-piperazinyl)-1-butynyl]-6-quinazolinyl}-3-(phenyloxy)propanamide.

4. The quinazoline derivative, salt thereof, or hydrate or solvate thereof according to Claim 3, wherein the compound is N-{4-[(3-chloro-4-fluorophenyl)amino]-7-iodo-6-quinazolinyl}-3-(phenylsulfonyl)propanamide.

5. A method for preparing the quinazoline derivative represented by general formula (I) of Claim 1 [where either of R^2 and R^3 denotes general formula (II) of Claim 1, and the other of R^2 and R^3 denotes general formula (III) of Claim 1], salt thereof, or hydrate or solvate thereof, by allowing the quinazoline derivative represented by general formula (V) below:

[Chem. 5]

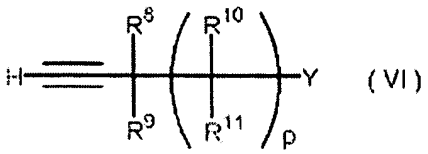


(V)

[in the formula, m and R^1 are the same as in Claim 1, either one of R^{2a} and R^{3a} is defined the same as in general formula (II) of Claim 1, and the other of R^{2a} and R^{3a} denotes an iodine atom],

or salt thereof, or hydrate or solvate thereof to react with a compound represented by general formula (VI) below:

[Chem. 6]



(VI)

(in the formula, R^8, R^9, R^{10}, R^{11}, Y and p are defined the same as in Claim 1),

or salt thereof, or hydrate or solvate thereof.

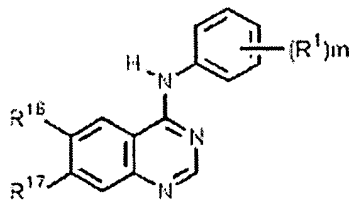
6. The preparation method according to Claim 5, wherein m is 2, R^1 is a halogen atom, R^{2a} is -NHCO-CH_2-CH_2-R^7 (in the formula, R^7 denotes a methylsulfonyl group, benzenesulfonyl group, phenyloxy group, phenylthio group, or methylthio group), and R^3 is an iodine atom.

7. The preparation method according to Claim 5, wherein the quinazoline derivative represented by general formula (V) is N-{4-[(3-chloro-4-fluorophenyl)amino]-7-iodo-6-quinazolinyl}-3-(phenylsulfonyl)propanamide or N-{4-[(3-chloro-4-fluorophenyl)amino]-7-iodo-6-quinazolinyl}-3-(phenyloxy)propanamide.

8. The preparation method according to Claim 7, wherein the quinazoline derivative is N-{4-[(3-chloro-4-fluorophenyl)amino]-7-iodo-6-quinazolinyl}-3-(phenylsulfonyl)propanamide.

9. A method for preparing the compound represented by general formula (III) of Claim 1, a pharmaceutically acceptable salt thereof, or a hydrate or solvate thereof, using any of the compounds recited in Claim 1-4, represented by general formula (VII) below:

[Chem. 7]



(VII)

[in the formula, m and R^1 are defined the same as in Claim 1, either one of R^{16} and R^{17} denotes -NHCO-CR^4=CR^5R^6 (in the formula, R^4, R^5, and R^6 are defined the same as in Claim 1), and the

other one of R^{16} and R^{17} is.

10. The preparation method according to Claim 9, wherein m is 2, R^1 is a halogen, R^2 is -NHCO-CH_2CH_2-R^7, R^{16} is -NHCO-CH=CH_2, and R^3 and R^{17} are general formula (IV) of Claim 2.

11. The preparation method according to Claim 10, wherein $R^{8'}$ and $R^{9'}$ each individually is a methyl group, and Y' is 4-methylpiperazin-1-yl.

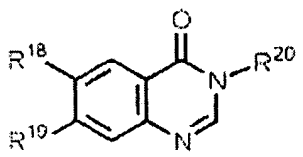
12. The preparation method for the compound represented by general formula (VII) of Claim 9, salt thereof, or hydrate or solvate thereof comprising the preparation method according to any of Claims 5 to 11.

13. The preparation method according to Claim 12, wherein m is 2, R^1 is a halogen, R^2 is -NHCO-CH_2CH_2-R^7, R^{16} is -NHCO-CH=CH_2, and R^3 and R^{17} are general formula (IV) of Claim 2.

14. The preparation method according to Claim 12, wherein $R^{8'}$ and $R^{9'}$ each individually is a methyl group, and Y' is 4-methylpiperazin-1-yl.

15. The compound represented by general formula (VIII) below:

[Chem. 8]



(VIII)

[in the formula, either of R^{18} and R^{19} denotes a nitro group, amino group, hydroxyamino group, or -NHCO-CH_2CH_2-$R^{7'}$ (in the formula, $R^{7'}$ denotes a methylsulfonyl group, benzenesulfonyl group, phenyloxy group, phenylthio group, or methylthio group), and the remaining one of R^{18} and R^{19} denotes an iodine atom, and R^{20} denotes a hydrogen atom, 3,4-dimethoxybenzyl group, 4-methoxybenzyl group, benzyloxymethyl group, or trifluoroacetyl group],

a salt thereof, or a hydrate or solvate thereof.

16. A compound, salt thereof, or hydrate or solvate thereof according to Claim 15, selected from a group consisting of the following compounds:

7-iodo-3-(4-methoxybenzyl)-6-nitro-4-quinazolinone, 6-amino-7-iodo-3-(4-methoxybenzyl)-4-quinazolinone, N-[7-iodo-3-(4-methoxybenzyl)-4-oxo-3,4-dihydro-6-quinazolinyl]-3-(phenylsulfonyl)propanamide, N-[7-iodo-3-(4-methoxybenzyl)-4-oxo-3,4-dihydro-6-quinazolinyl]-3-(phenyloxy)propanamide, N-(7-iodo-4-oxo-3,4-dihydro-6-quinazolinyl)-3-(phenylsulfonyl)propanamide, and N-(7-iodo-4-oxo-3,4-dihydro-6-quinazolinyl)-3-(phenyloxy)propanamide.

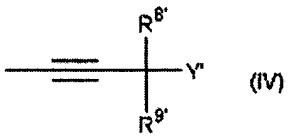
17. The compound, salt thereof, or hydrate or solvate thereof according to Claim 16, wherein the compound is 7-iodo-3-(4-methoxybenzyl)-6-nitro-4-quinazolinone, 6-amino-7-iodo-3-(4-methoxybenzyl)-4-quinazolinone, N-[7-iodo-3-(4-methoxybenzyl)-4-oxo-3,4-dihydro-6-quinazolinyl]-3-(phenylsulfonyl)propanamide, or N-(7-iodo-4-oxo-3,4-dihydro-6-quinazolinyl)-3-(phenylsulfonyl)propanamide.

18. The preparation method for the compound of general formula (I) in Claim 1 which uses any of the compounds according to any of Claims 15 to 17.

19. The preparation method according to Claim 18, wherein m is 2, R^1 is a halogen atom, R^2 is -NHCO-CH_2-CH_2-R^7 (in the formula, R^7 denotes a methylsulfonyl group, benzenesulfonyl group, phenyloxy group, phenylthio group, or methylthio group), and R^3 is an iodine atom or general

formula (IV) below:

[Chem. 9]



(IV)

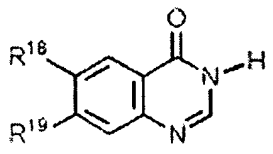
(in the formula, $R^{8'}$ and $R^{9'}$ each individually denotes a hydrogen atom, methyl group, ethyl group, propyl group, or isopropyl group, and Y' denotes a morpholino group or 4-methylpiperazin-1-yl).

20. The preparation method according to Claim 18, wherein the compound is N-{4-[(3-chloro-4-fluorophenyl)amino]-7-iodo-6-quinazolinyl}-3-(phenylsulfonyl)propanamide, N-{4-[(3-chloro-4-fluorophenyl)amino]-7-iodo-6-quinazolinyl}-3-(phenyloxy)propanamide, N-{4-[(3-chloro-4-fluorophenyl)amino]-7-[3-methyl-3-(4-methyl-1-piperazinyl)-1-butynyl]-6-quinazolinyl}-3-(phenylsulfonyl)propanamide, or N-{4-[(3-chloro-4-fluorophenyl)amino]-7-[3-methyl-3-(4-methyl-1-piperazinyl)-1-butynyl]-6-quinazolinyl}-3-(phenyloxy)propanamide.

21. The preparation method according to Claim 18, wherein the compound is N-{4-[(3-chloro-4-fluorophenyl)amino]-7-iodo-6-quinazolinyl}-3-(phenylsulfonyl)propanamide.

22. The method for preparing a compound represented by general formula (V) according to Claim 5, comprising a step in which a compound represented by general formula (IX) below:

[Chem. 10]

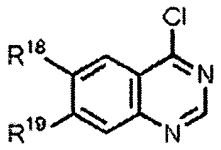


(IX)

[in the formula, either one of R^{18} and R^{19} denotes general formula (II) of Claim 1, and the remaining one of R^{18} and R^{19} denotes an iodine atom]

is chlorinated to produce a compound represented by general formula (X) below:

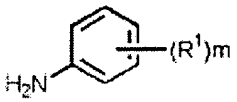
[Chem. 11]



(X)

(in the formula, R^{18} and R^{19} are defined the same as above), and a step in which a compound represented by general formula (XI) below:

[Chem. 12]



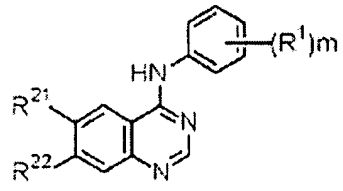
(XI)

(in the formula, m and R^1 are the defined same as in Claim 1)

is added.

23. A quinazoline derivative represented by general formula (XII) below:

[Chem. 13]



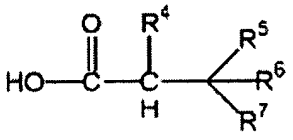
(XII)

(in the formula, m and R^1 are defined the same as in Claim 1, either one of R^{21} and R^{22} denotes an amino group or nitro group, and the remaining one of R^{21} and R^{22} denotes an iodine atom),

a salt thereof, or a hydrate or solvate thereof.

24. A method for preparing a compound represented by general formula (I) of Claim 1, a pharmaceutically acceptable salt thereof, a hydrate or solvate thereof, wherein the nitro group of a compound wherein either one of R^{21} and R^{22} in general formula (XII) of Claim 23 is a nitro group and the other one of R^{21} and R^{22} is an iodine atom is changed to an amino group, whereupon a reaction is allowed to occur with a compound of general formula (XIII) below:

[Chem. 14]



(XIII)

(in the formula, R^4, R^5, R^6 and R^7 are defined the same as in Claim 1).